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APLODONTIA HUMBOLDTIANA, A NEW MOUNTAIN BEAVER FROM THE HUMBOLDT BAY DISTRICT, CALIFORNIA.

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[Contribution from the Museum of Vertebrate Zoölogy of the University of California.]

The range of the genus *Aplodontia* within California embraces three areas: The Cascade-Sierra Nevada mountain system from the northern boundary of the State south at least to Mammoth, Mono County; the Trinity-Siskiyou mountain mass in the extreme northern part of the State; and the coast district from the northern boundary of the State south to San Francisco Bay. Two coast forms have already been described: *Aplodontia phæa* Merriam, from Point Reyes, Marin County, and *Aplodontia nigra* Taylor, from Point Arena, Mendocino County. It has been known for some time that another form of *Aplodontia* occurs in the Humboldt Bay district, but lack of adequate material for description and comparison has postponed the decision of its systematic status till now. The writer desires to express his thanks to the authorities of the Field Museum of Natural History, and particularly to Mr. Wilfred H. Osgood, Assistant Curator of Mammalogy and Ornithology, for the loan of specimens for study.

Aplodontia humboldtiana new species.

Type.—Male adult, No. 21,162, Mus. Vert. Zool.; Carlotta, Humboldt County, California; January 4, 1914; collected by H. E. Wilder; Orig. No. 1494; stuffed skin, with skull and jaws, all in good condition.

Diagnosis.—Similar in coloration to *Aplodontia chryseola*, but darker; paler hue of brown series of colors interspersed with black hairs; ventral brown wash much less distinct. Skulls may usually be separated from

those of *chryseola* by outline of nasals. In *humboldtiana* the embayment in the lateral outline tends to be more pronounced and situated farther forward than in *chryseola*. Interpterygoid fossa usually broader; paroccipitals lighter; measurement transversely across angular process of mandible less.

Comparisons.—Examples of *Aplodontia humboldtiana* are larger and less richly colored than topotypes of *A. pacifica* from Newport, Oregon. From the new form one receives the impression of black interspersed with buffy, while from *pacifica* one gets the impression of rich brown, with black hairs plentifully insprinkled, and especially emphasized on the middle line of the back. *A. humboldtiana* is not so black as *A. nigra*, which is the darkest member of the genus known to date. The new form is less rich in brown coloration than any of the species occurring in contiguous districts, with the possible exception of *nigra*, *chryseola* being next in degree of richness, and *pacifica* the brightest of all. *A. humboldtiana* is also marked off from all its neighbors by the faint brown wash ventrally. In *nigra* the ventral brown wash is more distinct, in *chryseola* still more distinct, and in *pacifica* the most distinct of all.

Cranially *Aplodontia humboldtiana* can usually be separated from *A. pacifica* by the broader outline of its nasals, which are in most examples conspicuously dilated anteriorly rather than straight as in the Oregon species. Zygomatic width tends to be greater in *humboldtiana* than in *pacifica* or *A. nigra*, more as in *A. chryseola*. In general the cranial measurements of the new form tend to be greater than in *pacifica* or *nigra*. Nine of the fifteen specimens of *humboldtiana* measured have the width of the interpterygoid fossa equal to or exceeding the maximum of this measurement in *chryseola* and *pacifica*. *A. humboldtiana* has paroccipital processes intermediate in condition between the less prominent, more plate-like type observed in most examples of *pacifica* and the more prominent, heavier, more knob-like type noted in *chryseola*. Measurement transversely across angular process of mandible practically the same in *humboldtiana* as in *pacifica*, less than in *chryseola*. But greatest length of mandible links *humboldtiana* with *chryseola* rather than with *pacifica*. This measurement affords a separative character as between *humboldtiana* and *nigra*, also, being greater in the former than in the latter.

Material.—Twenty-one specimens, all from California: 8 (Nos. 21,155–21,162, Mus. Vert. Zool., taken by H. E. Wilder) from Carlotta, Humboldt County; 7 (No. 11,413, Mus. Vert. Zool., taken by Frank Stephens; Nos. 18,990–18,994, 19,174, Mus. Vert. Zool., taken by H. E. Wilder) from Cuddeback, Humboldt County; 5 (Nos. 9061–9064, 9066, Field Mus. Nat. Hist., taken by E. Heller) from Eureka, Humboldt County; 1 (No. 21,983, Mus. Vert. Zool., taken by H. S. Prescott) from Requa, Del Norte County.

Measurements.—Type (adult male): Total length, 365 mm.; tail vertebræ, 35; hind foot, 58; basilar length of skull, 59.8; width of nasals, 10.5; length of audital tube, 19.4; length of incisive foramina, 7.5; zygomatic width, 53.9; greatest width of interpterygoid fossa, 5.5; mastoid

width of cranium, 53.7; alveolar length of superior cheek teeth, 18.7; distance between infraorbital foramina, 16.1; mandible, transversely across angular process, 22.1; greatest length of mandible, 48.4.

Remarks.—Germane to this discussion are the following facts: For some time it has been recognized that the *Aplodontia* of the Humboldt Bay district is distinct from its coast-dwelling neighbors. Concerning the degree of its relationship to *Aplodontia chryseola* of the neighboring montane district interiorly there have been no adequate data at hand. A fairly sharp faunal line separates the Trinity Mountain district from that of the northern humid coast. At least seven genera of rodents are represented in the two regions by distinct species or subspecies. Consequently it is not surprising to find that adequate material shows that the *Aplodontia* of the coast region is distinct from that in the neighboring montane district.

It is, however, somewhat surprising to find that the closest affinities of *Aplodontia humboldtiana* are with *A. chryseola* rather than with its neighbors on the coast, for the affinities in most groups of mammals would appear to be north and south in the coast districts rather than east and west from the coast districts to neighboring montane districts. At least this seems to be true in the genus *Aplodontia*, which has the rather compact group of coast-dwelling forms represented by *Aplodontia phæa*, *A. nigra*, and *A. pacifica*, apparently more closely related to each other than to any other members of the genus. Grinnell has shown (An Analysis of the Vertebrate Fauna of the Trinity Region of Northern California, Univ. Calif. Publ. Zool., vol. 12, 1916, pp. 401, 407) that there are few Boreal species, either of birds or mammals, in the Trinity region which are identical with, or show closest affinities to, representatives in the northern humid coast belt. It is of interest that no rodent appears among the species listed by him as illustrative of close affinities in this direction.

Consequent upon these considerations it appears that *Aplodontia humboldtiana* furnishes an exception to the usual systematic alignment in the region in question, having its closest affinities rather with its montane neighbor to the eastward, than with its lowland neighbors either north or south along the coast.